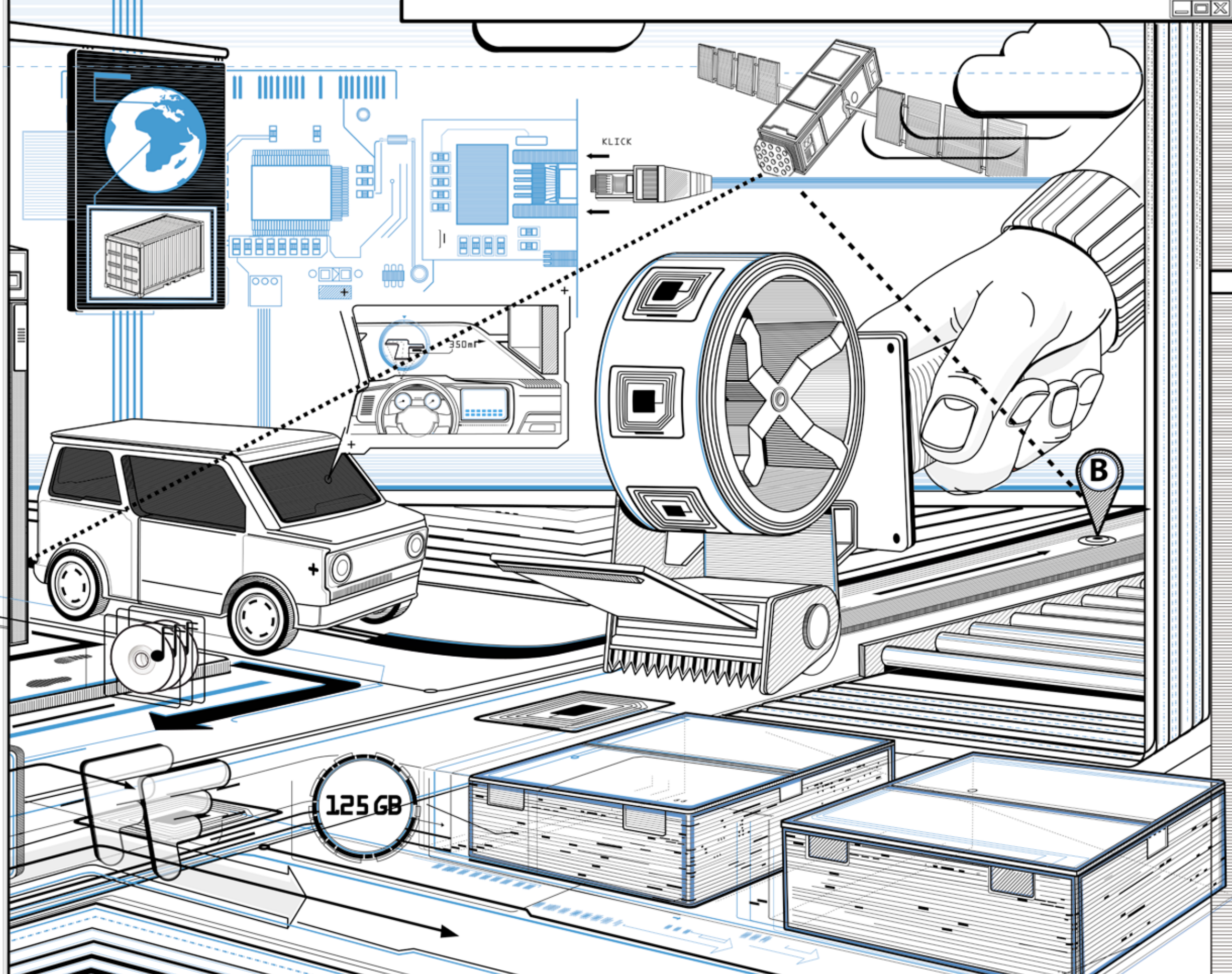
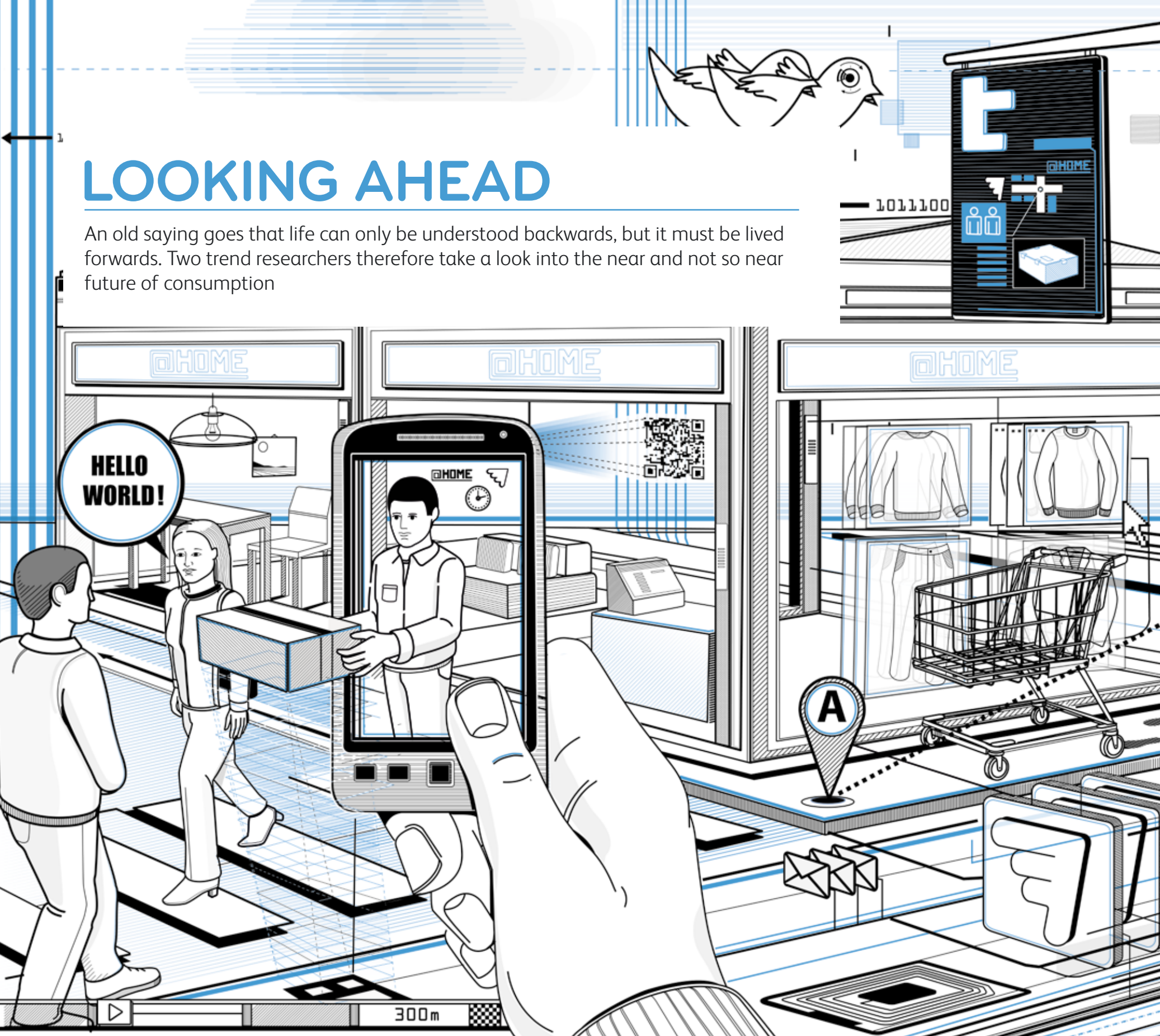


# LOOKING AHEAD

An old saying goes that life can only be understood backwards, but it must be lived forwards. Two trend researchers therefore take a look into the near and not so near future of consumption



## THE INTERNET IS OUT THERE SOMEWHERE

A telephone that knows who and where you are? Cameras with depth sensors that can capture objects and their movements? So-called quick response codes which connect the camera image with the internet? Mobile means of payment? These are all part of the present – on smartphones, on games consoles such as the xBox Kinect, on advertising placards or below magazine articles, on railway tickets. The age when we sat passively in front of a computer as though we were watching television is over. The internet is exploding into the real world and is arriving on the street.

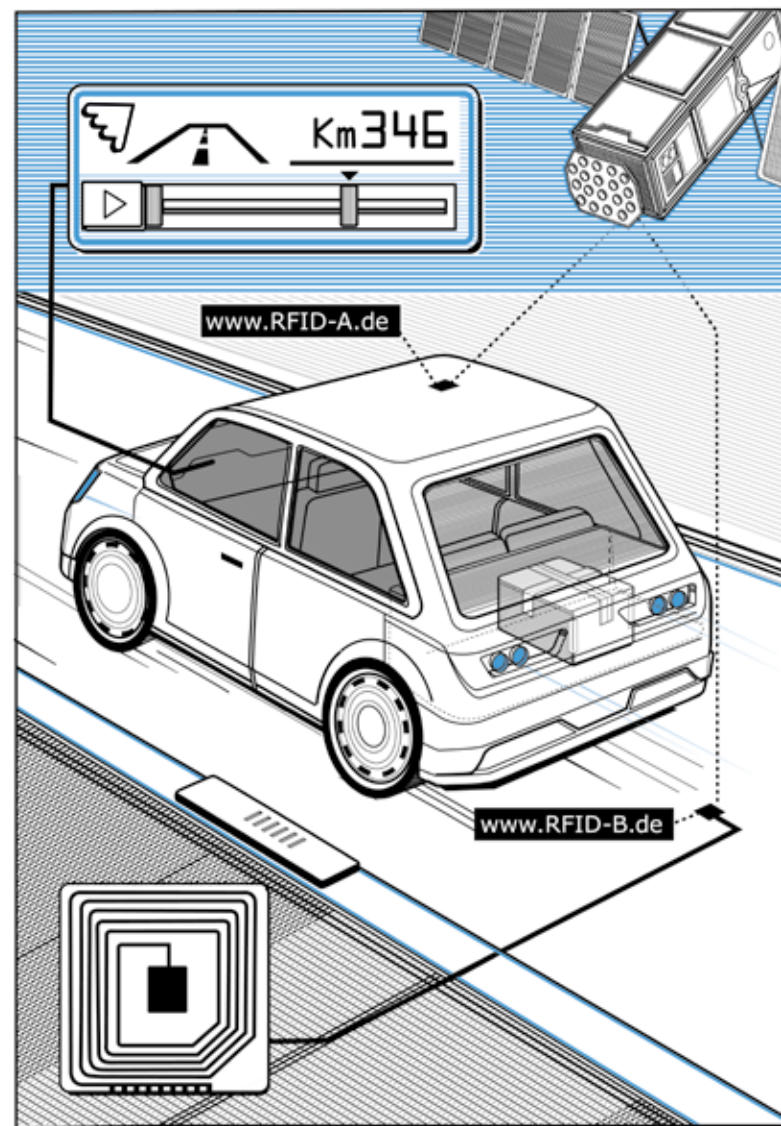
The applications of the so-called “outernet” are extremely varied. The virtual shop, in which railway station panels are covered with photos of stocked shelves, where you can photograph the code of an individual product and get it delivered to your home, already exists – this service is offered, for example, by the Tesco food chain in Singapore or the Budnikowsky drugstore chain in Hamburg.

An app which can tell which TV channel you are watching and then presents products suited to the programme (e.g. for “Sex and the City”, it might be Manolo Blahnik shoes), including on eBay?

Such forms of augmented reality also allow you to try them on digitally in front of a mirror (which in reality is a monitor) using a computer which merges the image or your foot with that of the shoe. The projection of a satnav onto your windscreen? This is almost ready for series production. Local services which tell you which of your Facebook friends have also just checked in at the airport? No problem. A lady on the train is reading a book that you would also like to have? Simply photograph the cover – the rest is done by an image-recognition app which then offers you appropriate shopping links. It will soon be possible to have bespoke trainers, as offered, for example, by Nike and Converse, created via a mobile phone. In the long term, systems will know which people and what things are located at which place and at what time, provided we feed them this information. The next steps are anticipatory apps which will tell us who is likely to be sitting with us on the train to work the day after tomorrow.

◀ Pages 194–195

**When worlds merge** *In the near future, there will no longer be any separation between reality and the virtual world.*

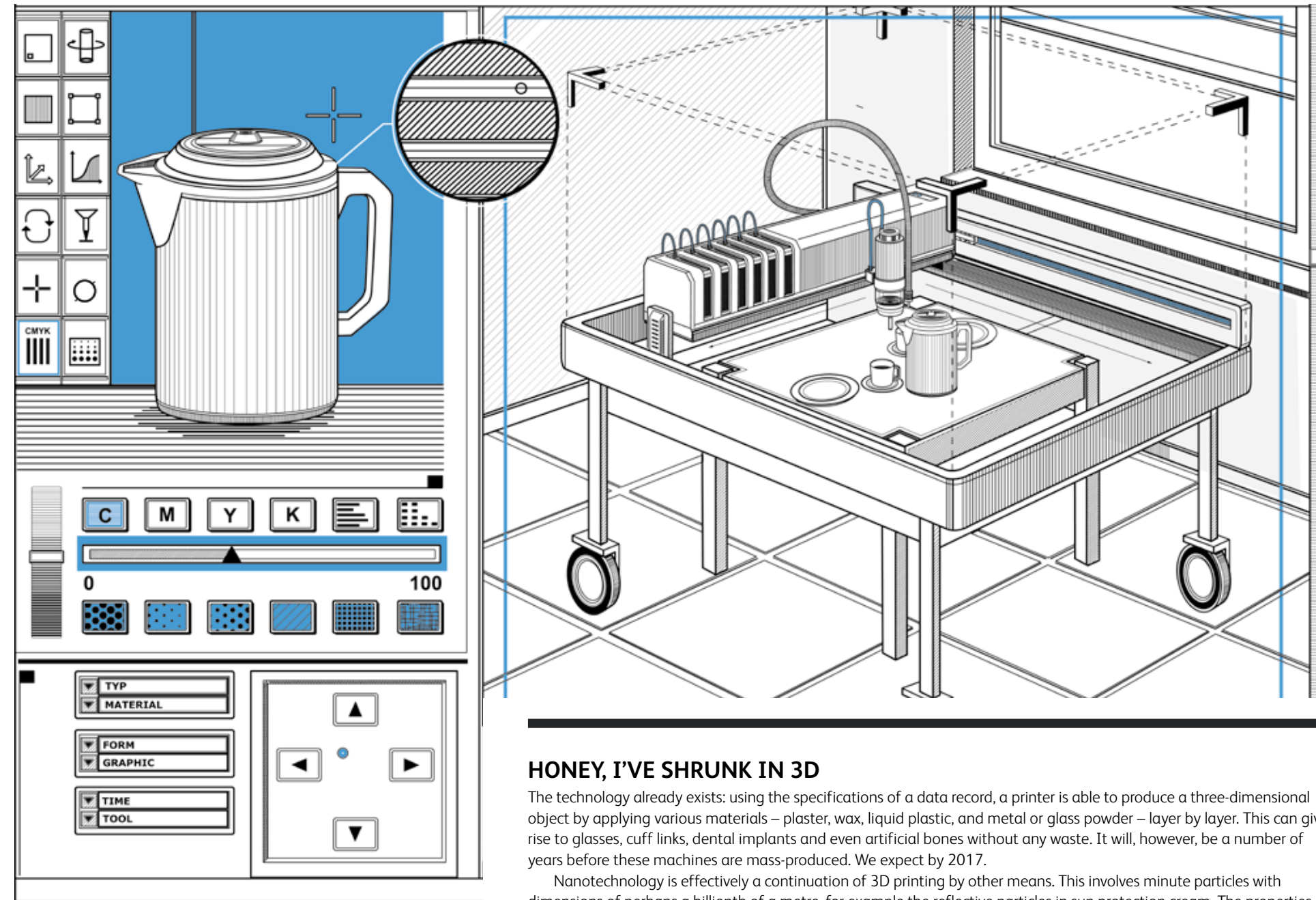


## THE NETWORK OF THINGS

Anybody who has a modern printer will automatically be informed when the ink level is getting low and new cartridges should be ordered. This is made possible by a chip. This chip, usually a RFID (radio-frequency identification) chip can be planted anywhere in any object, including in trees or the brain, theoretically. Fitted with a radio module and a telephone network, all of these chips can then go online and communicate with each other. Rear-view mirrors that indicate there has been a road accident already exist, as do baby scales

that tweet the baby's weight. Tablets with chips which forward information such as your heart rate to your doctor and bank notes with integrated circuits are being developed. Of course, all chips need their own internet address. Internet Protocol version 6 – which will replace the current version 4 because the 4.3 billion or so internet addresses that version 4 offers are no longer enough – will provide around 600 billion addresses per square millimetre of the earth's surface.

▲ **Chip, chip, hooray!** *Whether in orbit or on the street, tiny electronic transmitting units ensure that you can find out anytime where exactly a certain item is – and also why.*

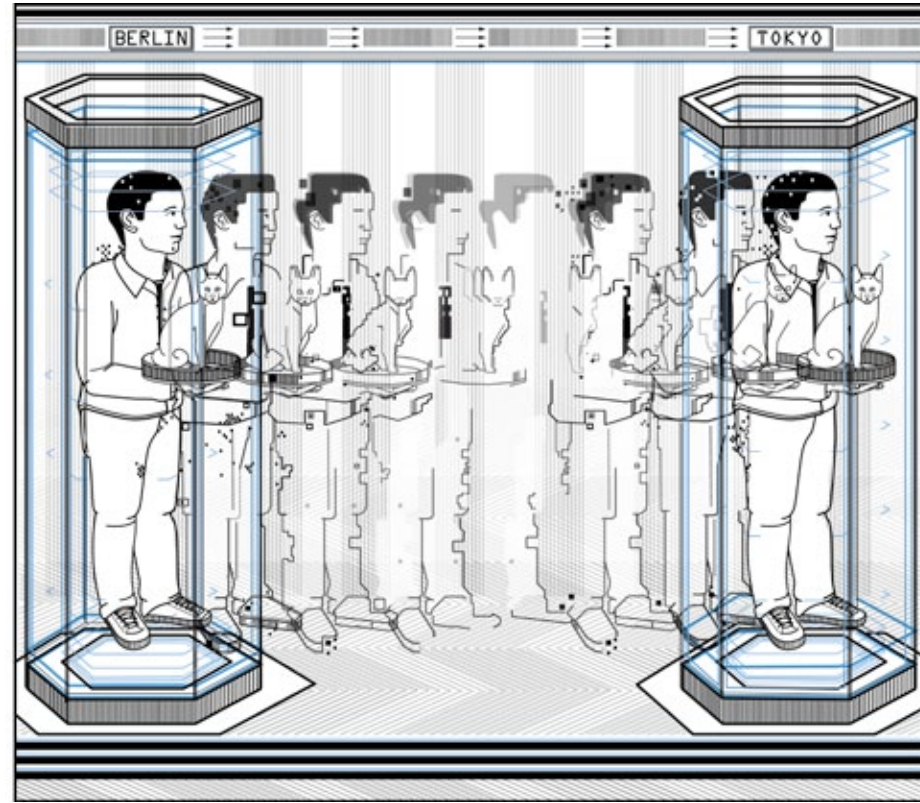


▲ **Print it yourself** *What today is still a written file or a photo could tomorrow be anything, i.e. printable. 3D printers for home use will allow goods – including kettles – to be produced individually.*

## HONEY, I'VE SHRUNK IN 3D

The technology already exists: using the specifications of a data record, a printer is able to produce a three-dimensional object by applying various materials – plaster, wax, liquid plastic, and metal or glass powder – layer by layer. This can give rise to glasses, cuff links, dental implants and even artificial bones without any waste. It will, however, be a number of years before these machines are mass-produced. We expect by 2017.

Nanotechnology is effectively a continuation of 3D printing by other means. This involves minute particles with dimensions of perhaps a billionth of a metre, for example the reflective particles in sun protection cream. The properties of some of these particles change under specific conditions – after an electrical surge, for example. At some stage they are likely to become programmable, enabling the colour, shape and properties of any object to be slightly changed. So far, nanotechnology has mainly been used in functional clothing, where it enables water or smells to be repelled. From next season, the shirts of the players in the US National Football League will use nanotechnology to record a range of player data, such as the composition of sweat and the number of muscle contractions.



### SCOTTY, ENERGIE!

Beaming is known from the TV series "Star Trek". A more accurate name for it is teleportation. Or a even more accurate one, quantum teleportation. This is the name given to the production of a copy of a photon at a different place. In so doing, the original transfers all of its characteristics and is then divested of its information. Nobody can really understand it – except the Austrian physicist Anton Zeilinger, who was the first to succeed in doing it. It is of course not possible to predict when the beaming of objects will become reality – all we know is that the logistics sector will then be faced with serious challenges!

▲ **Beam me up** The ability to decompose matter at one place and to reconstitute it in identical form at another lies very much in the future – but the same could be said 150 years ago of holding conversations over hundreds of kilometres or flying in steel machines.

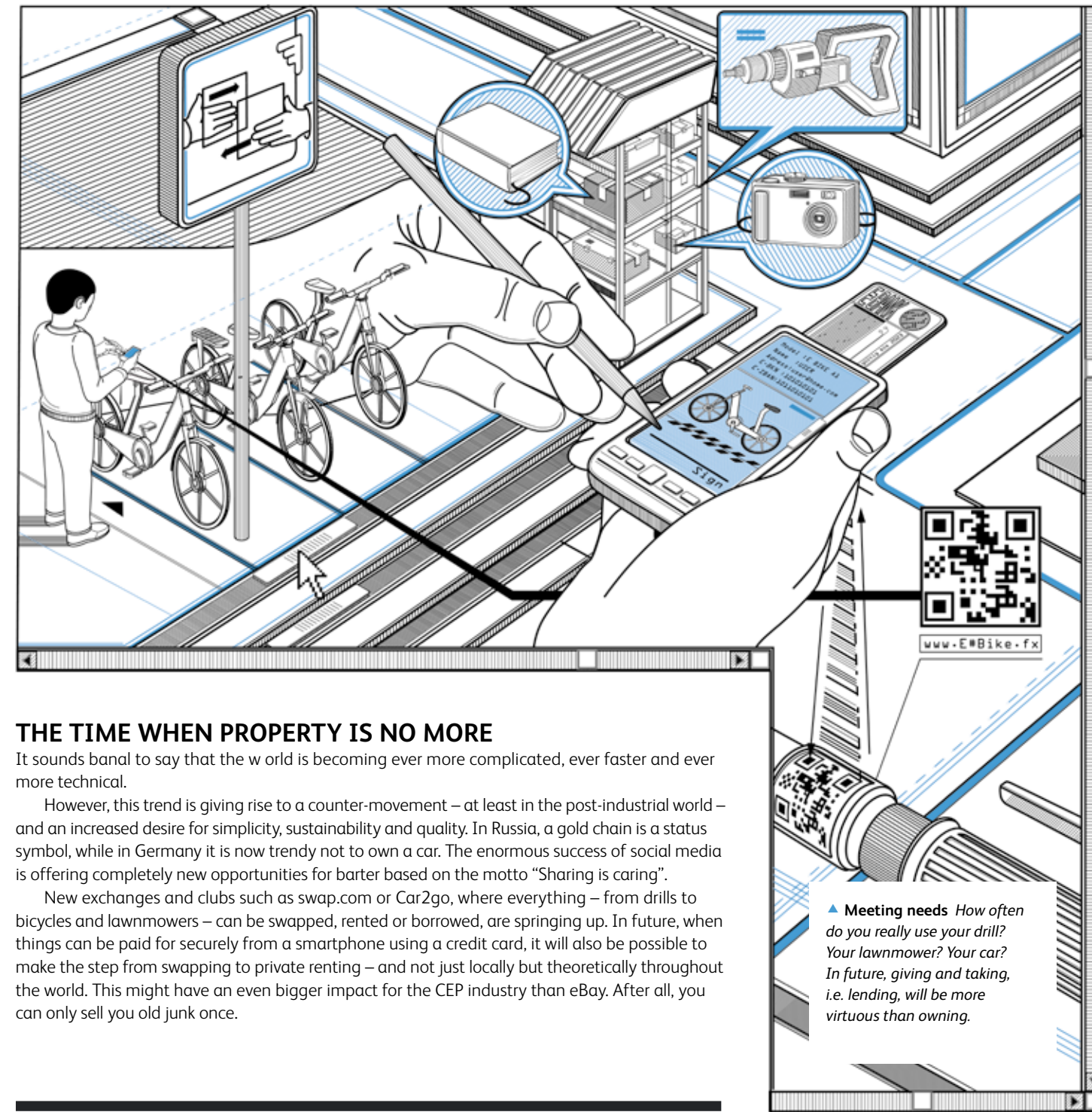
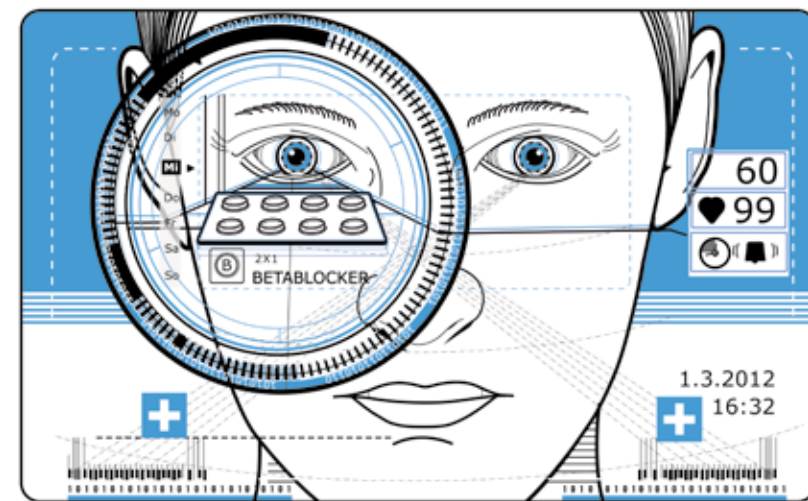
### HIGH-TECH BECOMES SHY-TECH

On the one hand, technical complexity is growing before our eyes, while on the other devices are growing ever smaller and more simple. What a normal smartphone can do today would have required a computer as big as a cupboard as little as ten years ago. In other words, miniaturisation is making devices almost disappear, and boasting the biggest of everything has been replaced with shy understatement.

A good example is interactive projection, currently being developed at the Massachusetts Institute of Technology (MIT). The further development of the touchscreen principle is making it possible to project a menu or telephone keypad onto almost any object – and with the touch of a fingertip, the cocktail is ordered or the number dialled.

The University of Washington in Seattle is going even further. There, augmented reality data (see above) is no longer displayed on a monitor but via special contact lenses directly into a person's field of vision. Using this technology, you would always be able to see how much of which medicines you should take (using object recognition and a connection to a medical databank) or what people on the street are doing (using face recognition and social networks such as Twitter).

▼ **Right in the eye** A contact lens which replaces TV sets, computer monitors, smartphone display screens and medical analysis equipment? This technology is already undergoing technical tests.



### THE TIME WHEN PROPERTY IS NO MORE

It sounds banal to say that the world is becoming ever more complicated, ever faster and ever more technical.

However, this trend is giving rise to a counter-movement – at least in the post-industrial world – and an increased desire for simplicity, sustainability and quality. In Russia, a gold chain is a status symbol, while in Germany it is now trendy not to own a car. The enormous success of social media is offering completely new opportunities for barter based on the motto "Sharing is caring".

New exchanges and clubs such as swap.com or Car2go, where everything – from drills to bicycles and lawnmowers – can be swapped, rented or borrowed, are springing up. In future, when things can be paid for securely from a smartphone using a credit card, it will also be possible to make the step from swapping to private renting – and not just locally but theoretically throughout the world. This might have an even bigger impact for the CEP industry than eBay. After all, you can only sell your old junk once.

▲ **Meeting needs** How often do you really use your drill? Your lawnmower? Your car? In future, giving and taking, i.e. lending, will be more virtuous than owning.



Nils Müller, born in 1975, is the founder and CEO of Trendone. His professional career began in 2000 at the IBM Innovation Center, and he then went on to study for a Masters in Berlin, New York and Milan. In 2002 he set up Trendone – which is today the market leader in micro-trend identification.



Torsten Rehder, born in 1978, is Knowledge Director of Trendzone. He studied economics and political science. Since 2006 he has been managing the Knowledge Unit, which focuses on interpreting key trends. He also published "Trendbook 2012" and lectures at the Macromedia University for Media and Communication.